REMARKS

Claims 1-8 are pending in the application with claim 1 being the only independent claim. Claim 1 has been amended. Claim 1 has been rejected under 35 U.S.C. §112, second paragraph as indefinite. Claims 1-8 been rejected under 35 U.S.C. §103(a) as unpatentable over JP 11-237274 (Kato) in view of U.S. Patent No. 6599096 ("Totten").

Rejection of claim 1 under 35 U.S.C. §112, second paragraph

The Office Action states that claim 1 has been rejected as indefinite because the limitation "wherein the lever arm is configured to pivot with the plastic clip in response to the fuel filling level when the guide curve contacts a boundary of the installation opening" is allegedly unclear because it depends on the condition of the tank and its contents. Further, the Examiner asserts that there is no disclosure in the specification regarding how the lever arm pivots in response to the fuel level when the guide curve contacts a boundary.

Claim 1 has been amended to remove the above-mentioned limitation. Therefore, Applicants' submit that this rejection has been overcome.

Rejection of claims 1-8 under 35 U.S.C. §103(a)

The Office Action states that the combination of Kato and Totten teaches all of Applicants' recited elements.

Independent claim 1 recites a filling level sensor for detecting a fuel filling level in a fuel tank of a motor vehicle, where the fuel tank defines an installation opening through which the level sensor is inserted into the fuel tank. The filling level sensor includes "a float; a lever arm coupled to the float that follows the fuel filling level, the lever arm comprising a plastic clip; a

support provided for installation in the fuel tank, the plastic clip being coupled to the support; and wherein the plastic clip comprises a guide part which protrudes laterally over the support and includes a contour that includes a guide curve on a side of the guidepart facing away from the support; and wherein the lever arm is configured to pivot with the plastic clip when the guide curve contacts a boundary of the installation opening".

Totten and Kato, whether taken alone or in combination, fail to teach or suggest "wherein the lever arm is configured to pivot with the plastic clip in response to the fuel filling level when the guide curve contacts a boundary of the installation opening", as recited in Applicants' amended claim 1.

The Examiner cites Figs. 1 and 2 of Kato and asserts that Kato teaches a guide curve 13b that is capable of causing a float arm 10 to pivot when the contour 13b contacts a boundary of an installation opening. The Examiner concedes that Kato fails to teach a tank with an installation opening through which the level sensor is inserted. However, the Examiner cites that Totten as teaching a tank having an installation opening 16 that allows for the installation of a sensor. The Examiner asserts that the float arm 10 of Kato would be capable of pivoting when the contour 13b contacts a boundary of the installation opening of Totten.

Applicants disagree and submit that the Examiner has misinterpreted Kato and that combining the teachings of Totten and Kato is improper because the resulting outcome is unpredictable.

Totten discloses a steam driven pump. The pump of Totten includes, inter alia, a flange 20, frame plates 28, a float arm 52, and a float 108. The pump of Totten is inserted into a tank 12 (see Figs. 1 and 2 of Totten).

Totten clearly fails to teach or suggest "wherein the lever arm is configured to pivot with the plastic clip in response to the fuel filling level when the guide curve contacts a boundary of the installation opening", as recited in Applicants' amended claim 1.

Kato teaches a ferromagnetic detection object "A" that includes a front part 13, which includes a circumference edge 13a, a perimeter edge 13b, and a peripheral face 14 (see paragraph [0015] of the machine translation of Kato). In operation, a float 11 of Kato moves with the level of a liquid. As the float 11 of Kato moves, the float arm 10 moves, which in turn causes the ferromagnetic detection object "A" to rotate about axial part 10a. Kato never teaches or suggests that the perimeter edge 13b is configured to, or is used for, causing a float arm 10 to pivot when the guide curve 13b contacts a boundary of a installation opening, which is contrast to that recited in Applicants' claim 1.

In order to cause the float of Kato to pivot upon contact of the perimeter edge with a boundary of the installation opening, the perimeter edge must slide against the boundary of the opening as the float pivots. There is no teaching or suggestion that the perimeter edge of detection object "A" would overcome the coefficient of friction against the installation opening during contact.

Thus, although Kato teaches a level sensor that includes a "curved part", the curved part does not include a guide curve that is configured to, or intended to, cause the plastic clip and the lever arm to pivot when the guide curve contacts a boundary of an installation opening, as recited in claim 1, because the detection object A is structured to be capable of little or no lateral movement, and consequently would not move laterally upon contact to allow the level sensor to be inserted into an installation opening of a fuel tank.

Although the detection object A of Kato is curved, the curve 13b causing the float arm 10 to pivot when the curve 13b contacts a boundary of an installation opening is not a predictable result because the disclosed structure of Kato is not described sufficiently for one skilled in the art to predict how the curve 13b will affect the motion of the float arm 10 when the curve 13b contacts an installation opening. As stated above, nothing in the disclosure of Kato indicates that the curve 13b of Kato is intended to cause the plastic clip and the lever arm to pivot when the curve 13b contacts a boundary of an installation opening. The Examiner is making an impermissible assumption based solely on the depicted shape of the curve 13b of Kato, with no support in the disclosure of Kato for such an assumption. Consequently, combining the device of Kato with the tank of Totten is improper.

In contrast to Kato, Applicants' recited filling level sensor is specifically configured and intended to pivot with the plastic clip when the guide curve contacts a boundary of the installation opening.

Therefore, Totten and Kato, whether taken alone or in combination, fail to teach or suggest "wherein the lever arm is configured to pivot with the plastic clip in response to the fuel filling level when the guide curve contacts a boundary of the installation opening", as recited in Applicants' amended claim 1.

In view of the foregoing, Applicants submit that Totten and Kato clearly fail to teach or suggest the subject matter recited in independent claim 1. Accordingly, independent claim 1 is patentable over Totten and Kato under 35 U.S.C. §103(a).

Claims 2-8, which depend from independent claim 1, incorporate all of the limitations of independent claim 1 and are therefore deemed to be patentably distinct over Totten and Kato for at least those reasons discussed above with respect to independent claim 1.

Further, dependent claim 7 recites that "the support or a component connected fixedly to the support is essentially the width of an installation opening in the fuel tank." The combination of Totten and Kato fails to teach this limitation because the detection object "A" of Kato is much wider than the support and there is no reason or suggestion to make it smaller than the support.

Conclusion

In view of the foregoing, reconsideration and withdrawal of all rejections, and allowance of all pending claims is respectfully solicited.

Should the Examiner have any comments, questions, suggestions, or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching a resolution of any outstanding issues.

Respectfully submitted,
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